

In the Specification

Please delete the Paragraph beginning on Page 1, line 5 and replace it with the following Paragraph.

1 - -U.S. Patent Application No. 10/728,627 ~~(TI-34654)~~,
2 entitled APPARATUS AND METHOD FOR SYNCHRONIZATION OF TRACE
3 STREAMS FROM MULTIPLE PROCESSORS, invented by Gary L.
4 Swoboda, filed on even date herewith, and assigned to the
5 assignee of the present application; U.S. Patent
6 Application No. 10/729,212 ~~(TI-34655)~~, entitled APPARATUS
7 AND METHOD FOR SEPARATING DETECTION AND ASSERTION OF A
8 TRIGGER EVENT, invented by Gary L. Swoboda, filed on even
9 date herewith, and assigned to the assignee of the present
10 application; U.S. Patent Application No. 10/729,239 ~~(TI-~~
11 ~~34656)~~, entitled APPARATUS AND METHOD FOR STATE SELECTABLE
12 TRACE STREAM GENERATION, invented by Gary L. Swoboda, filed
13 on even date herewith, and assigned to the assignee of the
14 present application; U.S. Patent Application No. 10/729,650
15 ~~(TI-34657)~~, entitled APPARATUS AND METHOD FOR SELECTING
16 PROGRAM HALTS IN AN UNPROTECTED PIPELINE AT NON-
17 INTERRUPTIBLE POINTS IN CODE EXECUTION, invented by Gary L.
18 Swoboda and Krishna Allam, filed on even date herewith, and
19 assigned to the assignee of the present application; U.S.
20 Patent Application No. 10/729,591 ~~(TI-34658)~~, entitled
21 APPARATUS AND METHOD FOR REPORTING PROGRAM HALTS IN AN
22 UNPROTECTED PIPELINE AT NON-INTERRUPTIBLE POINTS IN CODE
23 EXECUTION, invented by Gary L. Swoboda, filed on even date
24 herewith, and assigned to the assignee of the present

1 application; U.S. Patent Application No. 10/729,407 ~~(TI-~~
2 ~~34659)~~, entitled APPARATUS AND METHOD FOR A FLUSH PROCEDURE
3 IN AN INTERRUPTED TRACE STREAM, invented by Gary L.
4 Swoboda, filed on even date herewith, and assigned to the
5 assignee of the present application; U.S. Patent
6 Application No. 10/729,564 ~~(TI-34660)~~, entitled APPARATUS
7 AND METHOD FOR CAPTURING AN EVENT OR COMBINATION OF EVENTS
8 RESULTING IN A TRIGGER SIGNAL IN A TARGET PROCESSOR,
9 invented by Gary L. Swoboda, filed on even date herewith,
10 and assigned to the assignee of the present application;
11 U.S. Patent Application No. 10/729,400 ~~(TI-34661)~~, entitled
12 APPARATUS AND METHOD FOR CAPTURING THE PROGRAM COUNTER
13 ADDRESS ASSOCIATED WITH A TRIGGER SIGNAL IN A TARGET
14 PROCESSOR, invented by Gary L. Swoboda, filed on even date
15 herewith, and assigned to the assignee of the present
16 application; U.S. Patent Application No. 10/729,639 ~~(TI-~~
17 ~~34663)~~, entitled APPARATUS AND METHOD FOR TRACE STREAM
18 IDENTIFICATION OF A PROCESSOR RESET, invented by Gary L.
19 Swoboda, Bryan Thome and Manisha Agarwala, filed on even
20 date herewith, and assigned to the assignee of the present
21 application; U.S. Patent No. 10/729,214 ~~(TI-34664)~~,
22 entitled APPARATUS AND METHOD FOR TRACE STREAM
23 IDENTIFICATION OF A PROCESSOR DEBUG HALT SIGNAL, invented
24 by Gary L. Swoboda, Bryan Thome, Lewis Nardini and Manisha
25 Agarwala, filed on even date herewith, and assigned to the
26 assignee of the present application; U.S. Patent
27 Application No. 10/729,327 ~~(TI-34665)~~, entitled APPARATUS
28 AND METHOD FOR TRACE STREAM IDENTIFICATION OF A PIPELINE
29 FLATTENER PRIMARY CODE FLUSH FOLLOWING INITIATION OF AN
30 INTERRUPT SERVICE ROUTINE; invented by Gary L. Swoboda,

1 Bryan Thome and Manisha Agarwala, filed on even date
2 herewith, and assigned to the assignee of the present
3 application; U.S. Patent Application No. 10/729,647 ~~(TI-~~
4 ~~34666)~~, entitled APPARATUS AND METHOD FOR TRACE STREAM
5 IDENTIFICATION OF A PIPELINE FLATTENER SECONDARY CODE FLUSH
6 FOLLOWING A RETURN TO PRIMARY CODE EXECUTION, invented by
7 Gary L. Swoboda, Bryan Thome and Manisha Agarwala filed on
8 even date herewith, and assigned to the assignee of the
9 present application; U.S. Patent Application No. 10/729,401
10 ~~(TI-34667)~~, entitled APPARATUS AND METHOD IDENTIFICATION OF
11 A PRIMARY CODE START SYNC POINT FOLLOWING A RETURN TO
12 PRIMARY CODE EXECUTION, invented by Gary L. Swoboda, Bryan
13 Thome and Manisha Agarwala, filed on even date herewith,
14 and assigned to the assignee of the present application; U.
15 S. Patent Application No. 10/729,326 ~~(TI-34668)~~, entitled
16 APPARATUS AND METHOD FOR IDENTIFICATION OF A NEW SECONDARY
17 CODE START POINT FOLLOWING A RETURN FROM A SECONDARY CODE
18 EXECUTION, invented by Gary L. Swoboda, Bryan Thome and
19 Manisha Agarwala, filed on even date herewith, and assigned
20 to the assignee of the present application; U.S. Patent
21 Application No. 10/729,190 ~~(TI-34669)~~, entitled APPARATUS
22 AND METHOD FOR TRACE STREAM IDENTIFICATION OF A PAUSE POINT
23 IN A CODE EXECUTION SEQUENCE, invented by Gary L. Swoboda,
24 Bryan Thome and Manisha Agarwala, filed on even date
25 herewith, and assigned to the assignee of the present
26 application; U.S. Patent Application No. 10/729,196 ~~(TI-~~
27 ~~34670)~~, entitled APPARATUS AND METHOD FOR COMPRESSION OF A
28 TIMING TRACE STREAM, invented by Gary L. Swoboda and Bryan
29 Thome, filed on even date herewith, and assigned to the
30 assignee of the present application; U.S. Patent

1 Application No. 10/729,272 ~~(TI-34671)~~, entitled APPARATUS
2 AND METHOD FOR TRACE STREAM IDENTIFICATION OF MULTIPLE
3 TARGET PROCESSOR EVENTS, invented by Gary L. Swoboda and
4 Bryan Thome, filed on even date herewith, and assigned to
5 the assignee of the present application; and U.S. Patent
6 Application No. 10/729,191 ~~(TI-34672)~~ entitled APPARATUS
7 AND METHOD FOR OP CODE EXTENSION IN PACKET GROUPS
8 TRANSMITTED IN TRACE STREAMS, invented by Gary L. Swoboda
9 and Bryan Thome, filed on even date herewith, and assigned
10 to the assignee of the present application are related
11 applications.- -

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13 Please delete the Paragraph beginning on Page 18, line 9 of
14 the specification and replace that Paragraph with the
15 following Paragraph.

16

17 - - The comparator of the present invention is
18 particularly useful in the test and debug procedures of a
19 target processor. In analyzing the operation of target
20 processing system, it is important to know the events that
21 result in the change in operation produced by a trigger
22 signal. The present invention captures an identification
23 of the events that result in the change in operation, e.g.,
24 the transition to an interrupt service routine. These
25 events are captured only in the event that an actual
26 trigger signal is generated. Upon the generation of a
27 trigger signal, signals specifying the events causing the
28 trigger signal are stored and can be transferred to the
29 host processing unit for analysis. In addition, it is

1 necessary to determine where in the program execution the
2 trigger signal occurred as well as the events that resulted
3 in the generation of the trigger signal. The contents of
4 the program counter are the best indication of the state of
5 program execution at the time of the trigger signal.
6 However, because of the pipeline delay (and, if present, a
7 pipeline flattener delay), the events that result in the
8 generation of the trigger signal are the result of
9 instructions that began execution before the delay.
10 Consequently, in order to correlate the events causing the
11 trigger signal with the appropriate instruction identified
12 by the program counter, ~~the~~ a delay is added in the
13 instruction applied to the register. In this manner, the
14 target processor events resulting in the generation of a
15 trigger signal and the related position in the instruction
16 execution can be identified and transferred to the host
17 processing unit for analysis. In the preferred embodiment
18 shown in Fig. 2 and Fig. 3, bus A and bus B are both
19 coupled to the addresses referenced by the program counter.
20 The comparator unit is then used to generate an EVENT
21 signal that is applied to the trigger unit. However, the
22 comparator of the present ~~has~~ invention has wider
23 application. For example, two addresses can be applied to
24 the comparator on the two buses and analyzed separately.
25 ~~For example, a program counter address and an address~~
26 ~~referenced by the program counter address can be analyzed~~
27 ~~separately.~~ - -